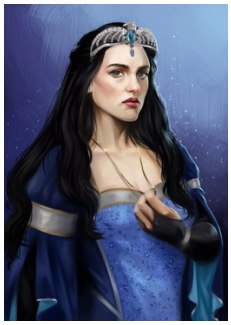
Day 7: The Hidden Chamber of Ravenclaw

Your Mission

A ghostly figure appears in the Hogwarts library. It is Rowena Ravenclaw, founder of Ravenclaw House.

"*A hidden chamber lies beneath the castle. Inside is a magical artifact that can strengthen students' magic. But five enchanted locks protect it. Each lock is a different kind of puzzle of shape, number, logic, and measurement. Solve all five, and the chamber will open.*"

You pick up your wand and your pencil. Let the challenge begin.



Warm-Up: Toolbox Review

Today is different from the single-topic days. You are not learning a new tool but choosing the right tool for each question. Here is your toolkit:

Tool	What It Does	When to Use It
Visualize	Draw it, rotate it, count faces and edges	Shape puzzles, 3D blocks, mazes, folding
Test and Work Backwards	Pick answer choices, go back and test them in the question	Number puzzles with two situations or missing pieces
Deduce	Read and understand every clue, eliminate what cannot be true	Logic puzzles with people, pets, floors, or lines
Measure	Write units, draw a timeline or diagram, convert carefully	Time, length, distance, weight, calendar

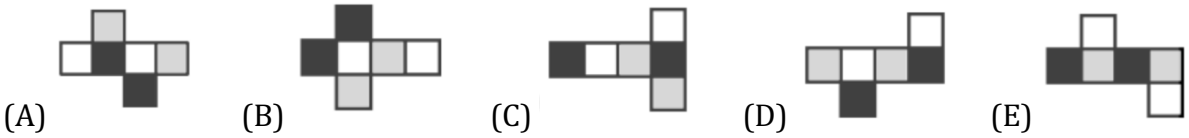
Quick Check: For each puzzle below, write which tool you would first.

1. A cube is painted and cut. How many small cubes have two painted faces? _____
2. Four friends each have a different pet. Clues tell you who has fur, who has four legs, and who has a bird. Who has the cat? _____
3. A train leaves at 8:15 and arrives at 11:40. How long is the trip? _____
4. Jack subtracts 40, then adds 2000, and gets 3250. What was his number? _____

Challenge 1: The Color Cube Lock

Professor Flitwick places a strange cube on the desk. It is painted with three colors, and opposite faces are the same color.

"*From which of the five patterns below can this cube be made?*"



Hint: This is a **visual puzzle**. Fold each cube in your mind or draw it out. Which two faces would end up opposite each other? Opposite faces must be the same color.



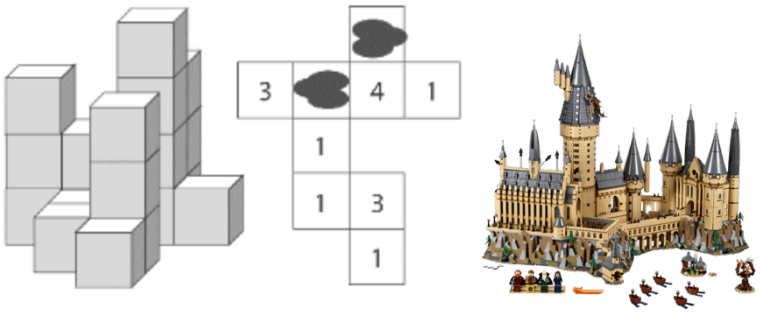
Challenge 2: The Spilled-Ink Castle Plan

A miniature model of Hogwarts stands on the table. Beside it is a plan of the building blocks used to make it. Some ink has spilled on the plan.

"*What is the sum of the numbers under the ink spills?*"

(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

Hint: This is a **visual puzzle**. Look at the block model and the plan together. Each number on the plan tells how many blocks are stacked in that square. Use the visible heights to figure out the hidden numbers.



Challenge 3: The Jar of Enchanted Marbles

Professor Snape has a jar that contains 15 enchanted marbles: white, red, and black.

"*The number of white marbles is 7 times the number of red marbles. How many black marbles are in the jar?*"

(A) 1 (B) 3 (C) 5 (D) 7 (E) 9

Hint: This is an **algebra puzzle**. If there is 1 red marble, how many white marbles? How many total is that? Can there be 2 red marbles? Why not? Then find the black marbles.



Challenge 4: The Great Hall Queue

Students are lining up for the Great Hall.

"*There are 16 students on Maria's right, and Matt is among them. There are 14 students on Matt's left, and Maria is among them. There are 7 students between Maria and Matt. How many students are in this class?*"

(A) 37 (B) 30 (C) 23 (D) 22 (E) 16

Hint: This is a **deduction puzzle**. Draw a line. Place Maria and Matt so there are 7 students between them. Use the 16-on-Maria's-right and 14-on-Matt's-left clues to count the ends.



Challenge 5: The Astronomy Tower Clock

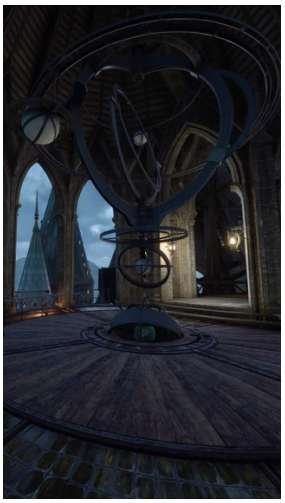
Mary leaves the Astronomy Tower between 8 and 9 in the morning. The hour and minute hands are overlapping. She returns between 2 and 3 in the afternoon, when the hands form a straight line.

"*How long was Mary away from the Tower?*"

(A) 5 hours (B) 5 and a half hours (C) 6 hours (D) 6 and a half hours (E) 7 hours

Hint: This is a **measurement puzzle**. Draw the two clock faces. From the overlapping position to the straight-line position, how many full hours pass? The answer is a whole number of hours.





The Master Code

You have solved all locks. The chamber door glows. Fill in the mater code to open it.

Word Bank: CHECK, DEDUCE, ELIMINATE, MEASURE, VISUALIZE

1. For shape puzzles, _____ the pieces in your mind or on paper.
2. For logic puzzles, _____ what must be true from the clues.
3. For multiple-choice questions, _____ answers that are definitely wrong.
4. For time or length problems, _____ carefully and write the units.
5. After you solve any problem, _____ your answer by putting it into the question.

Mission Complete!

The chamber door swings open. Inside, the Ravenclaw Quill rests on a pedestal, said to help any student write clearer, sharper answers. Rowena Ravenclaw smiles: “You have used every tool in your toolbox. Well done, young wizard!”

